

IN THE CLAIMS

The following is a complete listing of the claims, which replaces all previous versions and listings of the claims.

1 – 52. (canceled)

53. (currently amended) A power converter system comprising:
a ~~thermal support~~ backplane configured to receive and circulate a coolant stream for extraction of heat;

a first power converter ~~circuit~~ module secured to and cooled by the backplane support, the first power converter module having a first plurality of power switching devices secured to a first substrate, wherein the first power converter module is being configured to be plugged into the backplane, to receive input power and to convert the input power to first output power having desired characteristics; and

a second power converter ~~circuit~~ module secured to and cooled by the backplane support, the second power converter module having a second plurality of power switching devices secured to a second substrate, wherein the second power converter module is being configured to be plugged into the backplane, to receive input power and to convert the input power to second output power having desired characteristics different from those of the first output power.

54. (currently amended) The system of claim 53, wherein at least one of the first and second converter modules ~~circuits~~ is configured to perform AC-to-AC conversion.

55. (currently amended) The system of claim 53, wherein at least one of the first and second converter modules ~~circuits~~ is configured to generate three-phase output power.

56. (currently amended) The system of claim 53, wherein at least one of the first and second converter ~~modules~~ circuits is configured to receive DC input power.

57. (currently amended) The system of claim 53, wherein the backplane support at least partially ~~defining~~ defines an electric reference plane for operation of the first and second converter ~~circuits~~ modules.

58. (currently amended) The system of claim 53, wherein the backplane support includes a channel for receiving a cooling medium, and wherein each of the ~~converter circuits includes a substrate having~~ first and second substrates have a passage in fluid communication with the channel of the backplane support for cooling the converter ~~circuits~~ modules during operation.

59. (currently amended) The system of claim 58, comprising a flow control valve for regulation of fluid flow through the ~~support~~ backplane.

60. (currently amended) The system of claim 59, comprising a thermal sensor coupled to the flow control valve to permit closed loop control of fluid flow through the ~~support~~ backplane.

61. (currently amended) The system of claim 53, wherein the first and second converter ~~circuits~~ modules are configured to operate independently of one another.

62-70. (canceled)

71. (previously presented) A power converter system comprising:
a backplane for routing electrical power and thermal energy, the backplane includes a channel for circulation of a cooling medium;

a first power converter secured to the backplane, the first power converter including power electronics circuit configured to produce first output power having desired characteristics; and

a second power converter secured to the backplane, the second power converter including power electronics circuitry configured to produce second output power independently of the first power converter;

wherein at least one of the first and second converters includes a passage in fluid communication with the channel for receiving the cooling medium.

72. (previously presented) The system of claim 71, wherein the backplane routes electrical power to and from the converters.

73. (previously presented) The system of claim 71, wherein at least one of the first and second converters is configured to perform AC-to-AC power conversion.

74. (previously presented) The system of claim 71, wherein at least one of the first and second converters is configured to generate three-phase output power.

75. (previously presented) The system of claim 71, wherein at least one of the first and second converters is configured to receive DC input power.

76-83. (canceled)